

① Graph the system

$$\begin{cases} x - y \geq -3 \rightarrow y \leq x + 3 \\ x - \frac{1}{2}y < 3 \rightarrow y > 2x - 6 \end{cases}$$

② Solve the system

(a)
$$\begin{cases} 3x - \underline{y} = 5 \\ y = \underline{4x + 2} \end{cases}$$

$$3x - (4x + 2) = 5$$

$$3x - 4x - 2 = 5$$

$$-x - 2 = 5$$

$$-x = 7$$

$$\boxed{x = -7}$$

$$\begin{aligned} y &= 4x + 2 \\ y &= 4(-7) + 2 \\ \boxed{y} &= \boxed{-26} \end{aligned}$$

(b)
$$\begin{cases} 6x - 3y = 3 \quad (5) & 30x - 15y = 15 \\ 5x - 5y = 10 \quad (-3) & -15x + 15y = -30 \end{cases}$$

$$\begin{array}{r} 30x - 15y = 15 \\ -15x + 15y = -30 \\ \hline 15x = -15 \\ \boxed{x = -1} \end{array}$$

$$5(-1) - 5y = 10$$

$$\begin{array}{r} -5 - 5y = 10 \\ +5 \quad +5 \end{array}$$

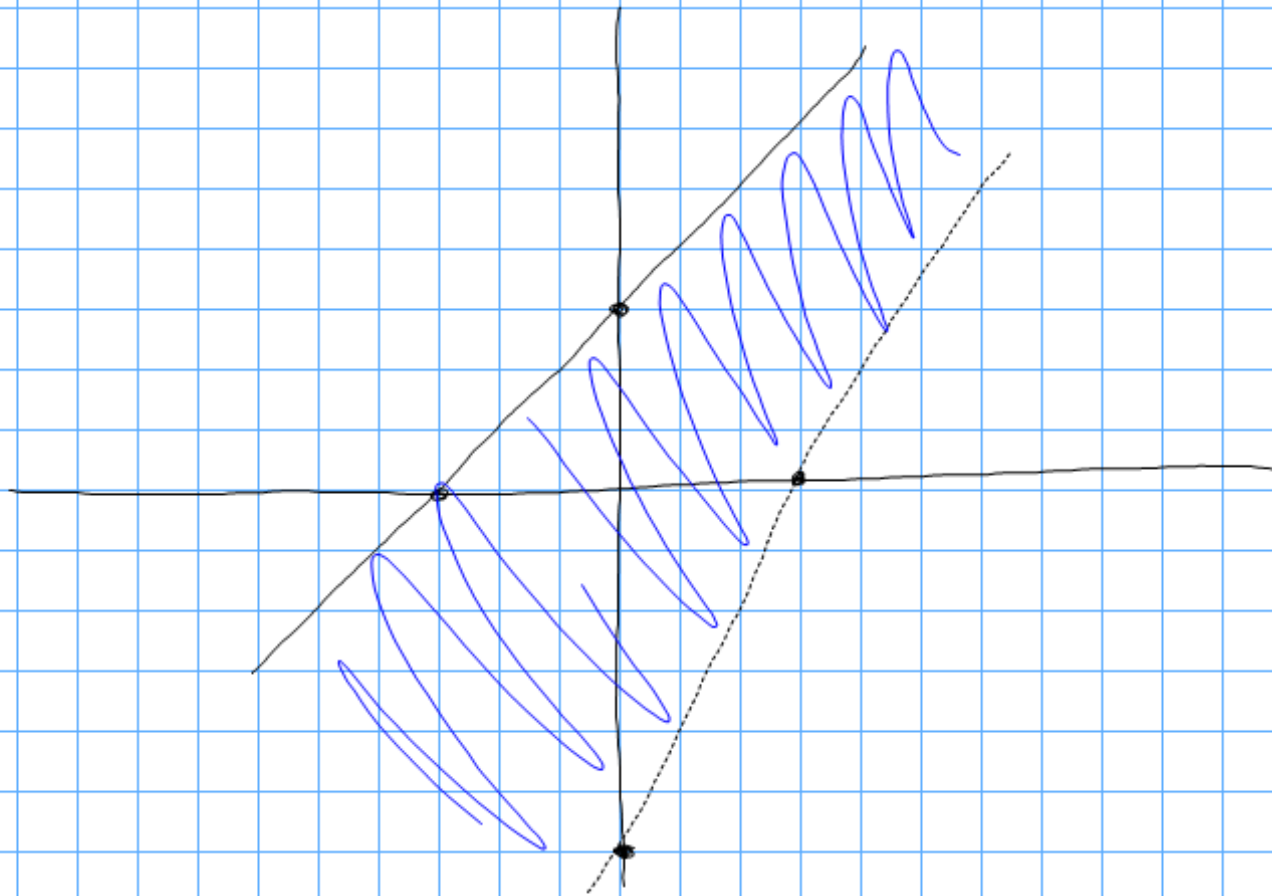
$$\begin{array}{r} -5y = 15 \\ \div -5 \quad \div -5 \end{array}$$

$$\boxed{y = -3}$$

① Graph the system

$$x - y = -3$$

$$\begin{cases} x - y \geq -3 \rightarrow y \leq x + 3 \\ x - \frac{1}{2}y < 3 \rightarrow y > 2x - 6 \end{cases}$$



3.2

$$t = \underline{\underline{2r + 3}}$$

$$\downarrow$$

$$5r - 4t = 6$$

$$5r - 4(2r + 3) = 6$$

$$5r - 8r - 12 = 6$$

$$\begin{array}{r} -3r - 12 = 6 \\ +12 \quad +12 \end{array}$$

$$\begin{array}{r} -3r = 18 \\ \underline{-3} \quad \underline{-3} \end{array}$$

$$r = -6$$

$$t = 2r + 3$$

$$t = 2(-6) + 3$$

$$t = -12 + 3$$

$$t = -9$$

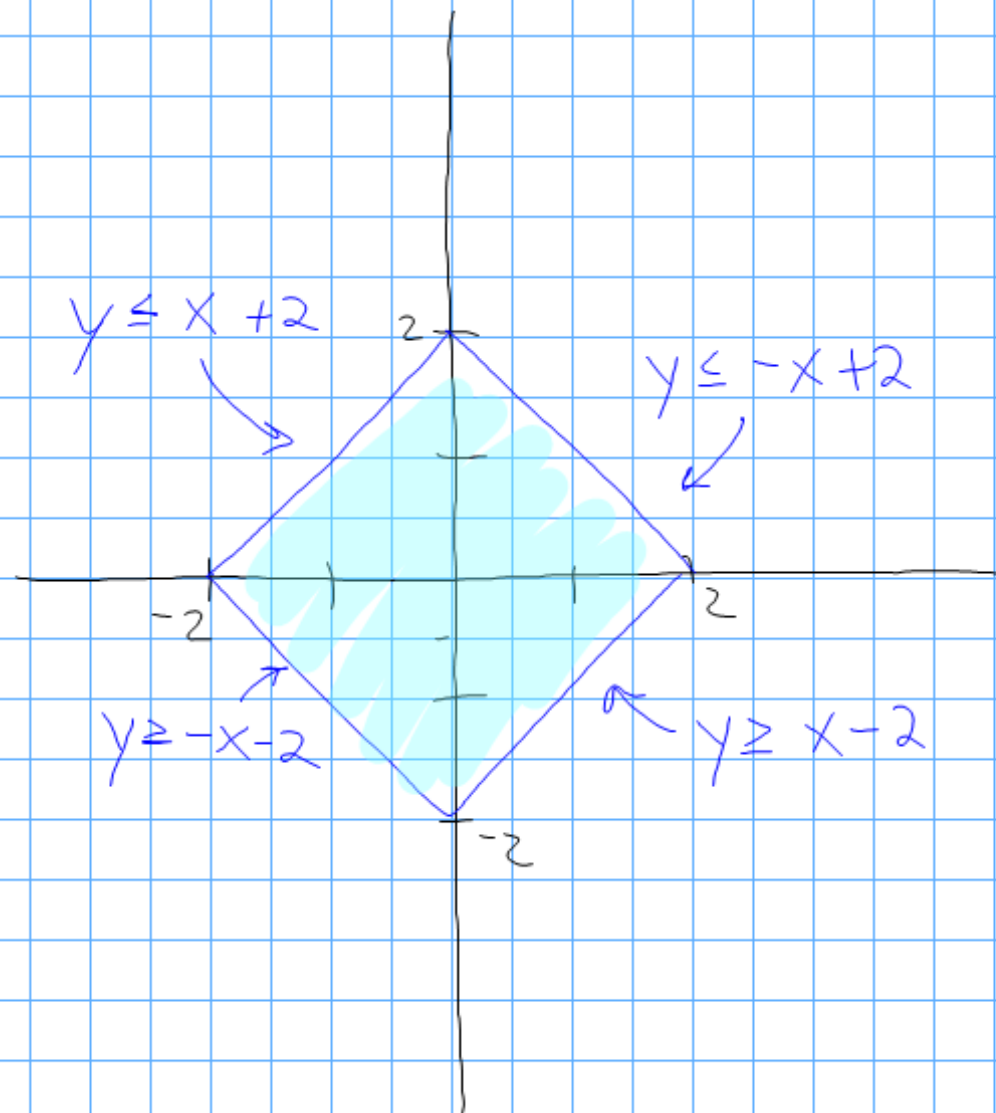
$$\begin{aligned} 4x - 6y &= -26 \\ -2x + 3y &= 13 \quad (2) \end{aligned}$$

$$\begin{aligned} 4x - 6y &= -26 \\ -4x + 6y &= 26 \end{aligned}$$

$$0 = 0$$

All \mathbb{R}

Dependent
Same line



Constraints

Oven space: 140

Prep time: 15 hrs.

Dough 110 lbs

Icing 32 lbs

Plain

1 lb Dough

0.1 hrs.

0 Icing

Iced

0.7 Dough

0.4 Icing

0.15 hrs.

Profit

cost \$4.50 Plain, \$5.00 iced

sell \$6.00 Plain, \$7.00 iced

Names	Plain (Dozens)	Iced (Dozens)	Profit	Qualifies?
Angela Brandon	96	20	\$184	<div> D T I O ✓ ✓ ✓ ✓ </div>
Andy Scott	30	30	\$105	<div> D T I O . </div>
	60	60	\$210	<div> D T I O ✓ ✓ ✓ ✓ </div>
○ Omar/ Kaya/marcus	54	80	\$241	<div> TIME Dough X </div>
Alex Todd	75	50	212.5\$	